

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A separating material ~~producible~~ formed by a process comprising the steps of:
  - a) providing a solid substrate having a substrate surface, ~~having wherein~~ amino-functional groups are coupled to the substrate surface[~~(,)~~];
  - b) covalently coupling of the amino-functional groups with a thermally labile radical initiator[~~(,)~~]; and
  - c) contacting the substrate surface with a solution of polymerizable monomers ~~under conditions~~, wherein ~~where~~ thermally initiated graft copolymerization of the monomers ~~takes place, to form~~ forms a structure of adjacent functional polymer chains on the substrate surface ~~of the substrate~~.
2. (Currently Amended) ~~The~~ A separating material ~~of~~ according to claim 1, wherein the solid substrate is a porous polymeric material, ~~preferably a porous polymeric material~~ having a pore size ~~that is~~ sufficiently large to allow passage of blood, blood plasma, or blood serum through the solid substrate ~~material~~.
3. (Currently Amended) ~~The~~ A separating material ~~of~~ according to one of claims 1 ~~or~~ and 2, wherein the solid substrate is ~~in the form~~ selected from the group of: a membrane, ~~a hollow fibre membrane~~, a particle bed, a fibre mat, ~~or~~ and beads, ~~preferably a hollow fibre membrane~~.

4. (Currently Amended) The A separating material ~~of any of claims~~ according to claim 1 to 3, wherein the solid substrate ~~is made of~~ includes a biocompatible material.

5. (Currently Amended) The A separating material ~~of any of claims~~ according to claim 1 to 4, wherein the solid substrate is made of a material selected from the a group, ~~consisting of~~ compounds including:

polyacrylates, polystyrene, polyethylene oxide, cellulose, cellulose derivatives, polyethersulfone (PES), polypropylene (PP), polysulfone (PSU), polymethylmethacrylate (PMMA), polycarbonate (PC), polyacrylonitrile (PAN), polyamide (PA), polytetrafluorethylene (PTFE), cellulose acetate (CA), and regenerated cellulose, ~~and blends or copolymers of the foregoing, or blends or copolymers with hydrophilizing polymers, preferably with polyvinylpyrrolidone (PVP) or polyethyleneoxide (PEO).~~

6. (Currently Amended) The A separating material ~~of any of claims~~ according to claim 1 to 5, wherein the amino-functional groups are primary amino groups.

7. (Currently Amended) The A separating material ~~of any of claims~~ according to 1 to 6, wherein the thermally labile radical initiator, ~~as the starting material before coupling to the amine groups on the substrate,~~ comprises at least one, ~~preferably two~~ carboxylic groups group.

8. (Currently Amended) The A separating material ~~of any of claims~~ according to claim 1 to 7, wherein the thermally labile radical initiator includes compounds which decompose to give free radicals ~~on~~ upon thermal activation,

~~preferably the thermally labile radical initiator being selected among azo compounds or peroxides.~~

9. (Currently Amended) ~~The A~~ separating material ~~of any of claims~~ according to claim 1 to 8, wherein the thermally labile radical initiator is 4,4'-azobis-(4-cyanovaleric acid) or 2,2'-azobis-[N-(2-carboxyethyl)-2-methylpropionamidine].

10. (Currently Amended) ~~The A~~ separating material ~~of any of claims~~ according to claim 1 to 9, wherein the polymerizable monomers are selected from compounds having a polymerizable double bond.

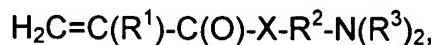
11. (Currently Amended) ~~The A~~ separating material ~~of any of claims~~ according to claim 1 to 10, wherein the polymerizable monomers are selected from the group, consisting of:

acrylic acid, methacrylic acid, vinyl compounds, ~~and derivatives of the foregoing~~  
acrylic acid, methacrylic acid and vinyl compounds,

N,N-Dimethylaminoethyl acrylamide, N,N-Diethylaminoethyl acrylamide, N,N-Dimethylaminopropyl acrylamide (DMPA), N,N-Dimethylaminopropyl methacrylamide, N,N-Dimethylaminoethyl methacrylate, N,N-Diethylaminoethyl methacrylate, N,N-Dimethylaminoethyl acrylate, N-Morpholinoethyl acrylate, N-Morpholinoethyl methacrylate, 1-Vinylimidazole, Trimethylammoniummethyl acrylamide, Trimethylammoniumpropyl methacrylamide, Trimethylammoniummethyl methacrylate, Glycidyl acrylate, Glycidyl methacrylate, Vinyl glycidyl ether, Vinyl glycidyl urethane, 2-Hydroxyethyl methacrylate, 2-Hydroxypropyl methacrylate, Hydroxymethyl methacrylate, N-Vinylpyrrolidone, 2-Vinyl pyridine, 4-Vinyl pyridine, and N-Vinyl-2-methylimidazole.

12. (Currently Amended) ~~The A~~ separating material ~~of any of claims according to claim 1 to 11~~, wherein the polymerizable monomers comprise Dimethylaminopropyl acrylamide (DMPA).

13. (Currently Amended) ~~The A~~ separating material ~~of any of claims according to claim 1 to 12~~, wherein the polymerizable monomers are selected from compounds of the following formula:



wherein  $\text{R}^1$  = hydrogen, methyl or ethyl group;  $\text{R}^2$  = C1-C6-alkyl or aryl group;  $\text{R}^3$  = methyl or ethyl group; and X = NH or O.

14. (Currently Amended) A method for the ~~production of~~ producing a separating material comprising the steps of by:

a) providing a solid substrate having a substrate surface, having wherein amino-functional groups are coupled to the substrate surface[[,]];

b) covalently coupling of the amino-functional groups with a thermally labile radical initiator[[,]]; and

c) contacting the substrate surface with a solution of polymerizable monomers ~~under conditions, wherein~~ where thermally initiated graft copolymerization of the monomers ~~takes place, to form~~ forms a structure of including adjacent functional polymer chains on the substrate surface ~~of the substrate~~.

15. (Currently Amended) ~~The A~~ method of according to claim 14, wherein the solid substrate is a porous polymeric material, ~~preferably a porous polymeric material~~ having a pore size ~~that is~~ sufficiently large to allow passage of blood, blood plasma, or blood serum through the solid substrate ~~material~~.

16. (Currently Amended) The A method of ~~any of claims~~ according to claim 14 ~~and 15~~, wherein the solid substrate is ~~in the form~~ selected from the group of: a membrane, ~~a hollow fibre membrane~~, a particle bed, a fibre mat, ~~or~~ and beads, preferably ~~a hollow fibre membrane~~.

17. (Currently Amended) The A method of ~~any of claims~~ according to claim 14 ~~to 16~~, wherein the solid substrate ~~is made of~~ includes a biocompatible material.

18 (Currently Amended) The A method of ~~any of claims~~ according to claim 14 ~~to 17~~, wherein the solid substrate is made of a material selected from the a group, consisting of compounds including:

polyacrylates, polystyrene, polyethylene oxide, cellulose, cellulose derivatives, polyethersulfone (PES), polypropylene (PP), polysulfone (PSU), polymethylmethacrylate (PMMA), polycarbonate (PC), polyacrylonitrile (PAN), polyamide (PA), polytetrafluorethylene (PTFE), cellulose acetate (CA), and regenerated cellulose, ~~and blends or copolymers of the foregoing, or blends or copolymers with hydrophilizing polymers, preferably with polyvinylpyrrolidone (PVP) or polyethyleneoxide (PEO).~~

19. (Currently Amended) The A method of ~~any of claims~~ according to claim 14 ~~to 18~~, wherein the amino-functional groups are primary amino groups.

20. (Currently Amended) The A method of ~~any of claims~~ according to claim 14 ~~to 19~~, wherein the thermally labile radical initiator, ~~as the starting material before coupling to the amine groups on the substrate~~, comprises at least one, preferably two carboxylic groups group.

21. (Currently Amended) ~~The A method of any of claims~~ according to claim 14 ~~to 20~~, wherein the thermally labile radical initiator includes compounds which decompose to give free radicals ~~on~~ upon thermal activation, ~~preferably the thermally labile radical initiator being selected among azo compounds or per oxides.~~

22. (Currently Amended) ~~The A method of any of claims~~ according to claim 14 ~~to 21~~, wherein the thermally labile radical initiator is 4,4'-azobis-(4-cyanovaleric acid) or 2,2'-azobis-[N-(2-carboxyethyl)-2-methylpropionamide].

23. (Currently Amended) ~~The A method of any of claims~~ according to claim 14 ~~to 22~~, wherein the polymerizable monomers are selected from compounds having a polymerizable double bond.

24. (Currently Amended) ~~The A method of any of claims~~ according to claim 14 ~~to 23~~, wherein the polymerizable monomers are selected from the group, consisting of:

acrylic acid, methacrylic acid, vinyl compounds, and derivatives of the foregoing acrylic acid, methacrylic acid and vinyl compounds,

N,N-Dimethylaminoethyl acrylamide, N,N-Diethylaminoethyl acrylamide, N,N-Dimethylaminopropyl acrylamide (DMPA), N,N-Dimethylaminopropyl methacrylamide, N,N-Dimethylaminoethyl methacrylate, N,N-Diethylaminoethyl methacrylate, N,N-Dimethylaminoethyl acrylate, N-Morpholinoethyl acrylate, N-Morpholinoethyl methacrylate, 1-Vinylimidazole, Trimethylammoniummethyl acrylamide, Trimethylammoniumpropyl methacrylamide, Trimethylammoniummethyl methacrylate, Glycidyl acrylate, Glycidyl methacrylate, Vinyl glycidyl ether, Vinyl glycidyl urethane,

2-Hydroxyethyl methacrylate, 2-Hydroxypropyl methacrylate, Hydroxymethyl methacrylate, N-Vinylpyrrolidone, 2-Vinyl pyridine, 4-Vinyl pyridine, and N-Vinyl-2-methylimidazole.

25. (Currently Amended) ~~The A method of any of claims~~ according to claim 14 to 24, wherein the polymerizable monomers comprise Dimethylaminopropyl acrylamide (DMPA).

26. (Currently Amended) ~~The A method of any of claims~~ according to claim 14 to 25, wherein the polymerizable monomers are selected from compounds of the following formula:



wherein  $\text{R}^1$  = hydrogen, methyl or ethyl group;  $\text{R}^2$  = alkyl or aryl group;  $\text{R}^3$  = methyl or ethyl group; and X= NH or O.

27. (Currently Amended) ~~A use~~ Use of a separating material of any of claims claim 1 to 13 for the extracorporeal treatment of blood, blood plasma or blood serum.

28. (Currently Amended) ~~The A use of~~ in accordance with claim 27, wherein the use is for the extracorporeal removal of endotoxins from blood, plasma or serum of septic patients.

29. (Currently Amended) ~~A use~~ Use of a separating material of any of claims claim 1 to 13, wherein the use is for affinity adsorption, ion-exchange adsorption, hydrophobic adsorption, hydrophilic adsorption, or affinity adsorption applications.

30. (Currently Amended) A separating column comprising the separating material of ~~any of claims~~ claim 1 to 13, whereby the separating material ~~is in the form of~~ includes beads, ~~the said~~ beads being packed into the separating column, and the beads

having a size sufficient to provide a porosity allowing passage of blood cells through the separating column.

31. (Currently Amended) A separating cartridge, comprising: a tube~~[[,]]~~; and multiple hollow fibre membranes potted into the tube, the said tube being fitted with ports, and the hollow fibre membranes having a pore size sufficient to allow passage of blood plasma through the hollow fibre membranes ~~membrane~~, wherein the hollow fibre membranes ~~membrane is made of~~ include the separating material of ~~any of claims~~ claim 1 ~~to 13~~.

32. (New) A separating material according the claim 3, wherein the solid substrate is a membrane, said membrane comprising a hollow fibre.

33. (New) A separating material according to claim 5, wherein the solid substrate includes blends or copolymers of said compounds.

34. (New) A separating material according to claim 33, wherein the blends or copolymers of said compounds further comprise hydrophilizing polymers, polyvinylpyrrolidone (PVP), or polyethyleneoxide (PEO).

35. (New) A separating material according to claim 8, wherein the thermally labile radical indicator comprises an azo compound or a peroxide.

36. (New) A method according to claim 16, wherein the solid substrate is a membrane, said membrane comprising a hollow fibre.

37. (New) A method according to claim 18, wherein the solid substrate includes blends or copolymers of said compounds.

38. (New) A method according to claim 37, wherein the blends or copolymers of said compounds further comprise hydrophilizing polymers, polyvinylpyrrolidone (PVP), or polyethyleneoxide (PEO).

39. (New) A method according to claim 21, wherein the thermally labile radical indicator comprises an azo compound or a peroxide.